IS 10738-2-2 (1989): Flanges for Waveguides, Part 2: Flanges for Ordinary Rectangular Waveguides, Section 2: Flange Type A [LITD 6: Wires, Cables, Waveguides and Accessories]

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IS 10738 (Part 2/Sec 2) : 1989
(Reaffirmed 2002)

भारतीय मानक

तरंगपथकों के लिये फ्लैंज – विशिष्टि

भाग 2 साधारण आयताकार तरंगपथकों के लिये फ्लैंज

अनुभाग 2 फ्लैंज टाइप ए

Indian Standard

FLANGES FOR WAVEGUIDES — SPECIFICATION

PART 2 FLANGES FOR ORDINARY RECTANGULAR WAVEGUIDES

Section 2 Flange Type A

UDC 621·372·831 : 621·372·822

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

April 1991

Price Group 3

FOREWORD

This Indian Standard (Part 2/Sec 2) was adopted by the Bureau of Indian Standards on 22 December 1989, after the draft finalized by the Microwave Components and Accessories Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

This standard shall be read in conjunction with IS 10738 (Part 1) : 1983 'Flanges for waveguides: Part 1 General requirements and tests' and IS 10738 (Part 2/Sec 1) : 1990 'Flanges for waveguides: Part 2 Flanges for ordinary rectangular waveguides, Section 1 General'.

Different types of waveguide flanges are covered in a series of Indian Standards consisting of the following individual parts of IS 10738:

Part 1 General requirements and tests

Part 2 Flanges for ordinary rectangular waveguides

Part 3 Flanges for flat rectangular waveguides

Part 4 Flanges for circular waveguides

Part 5 Flanges for medium flat rectangular waveguides

Part 6 Flanges for square waveguides

This Part 2 of IS 10738 series comprises of in 6 sections as follows:

Section 1 General

Section 2 Flange Type A

Section 3 Flange Type B

Section 4 Flange Type C

Section 5 Flange Type D

Section 6 Flange Type E

While preparing this standard assistance has been derived from IEC Pub 154-2 (1980) Flanges for waveguides: Part 2 Relevant specification for flanges for ordinary rectangular waveguides, issued by the International Electrotechnical Commission.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

FLANGES FOR WAVEGUIDES – SPECIFICATION

PART 2 FLANGES FOR ORDINARY RECTANGULAR WAVEGUIDES

Section 2 Flange Type A

1 SCOPE

1.1 This standard (Part 2/Sec 2) lays down dimensional requirements for flange Type A for ordinary rectangular waveguides.

2 REFERENCES

2.1 The following Indian Standards have been referred to in this standard :

IS No.	*Title*
4493 (Part 2) : 1981	Hollow metallic waveguides : Part 2 ordinary rigid rectangular waveguides
10738 (Part 1) :1983	Flanges for waveguides : Part 1 General requirements and tests
10738 (Part 2/Sec 1) : 1990	Flanges for waveguides : Part 2 Flanges for ordinary rectangular waveguides, Section 1 General

3 CLIMATIC CATEGORY

3.1 Provisions of **3** of IS 10738 (Part 1) : 1983 shall apply.

4 MATERIALS, CONSTRUCTION AND WORKMANSHIP

4.1 Provisions of **4** of IS 10738 (Part 1) : 1983 shall apply.

5 DESIGNATION OF FLANGES FOR WAVEGUIDES

5.1 Provisions of **5** of IS 10738 (Part 1) : 1983 shall apply.

6 DIMENSIONAL REQUIREMENTS

6.1 The outline and dimensions of flange type AR32, AR48 and AR58-70 shall be in accordance with Fig. 1, 2, 3, 4, 5 and 6 respectively in conjunction with Table 1.

7 TESTS

7.1 Provisions of **10** of IS 10738 (Part 2/Sec 1) : 1990 shall apply.

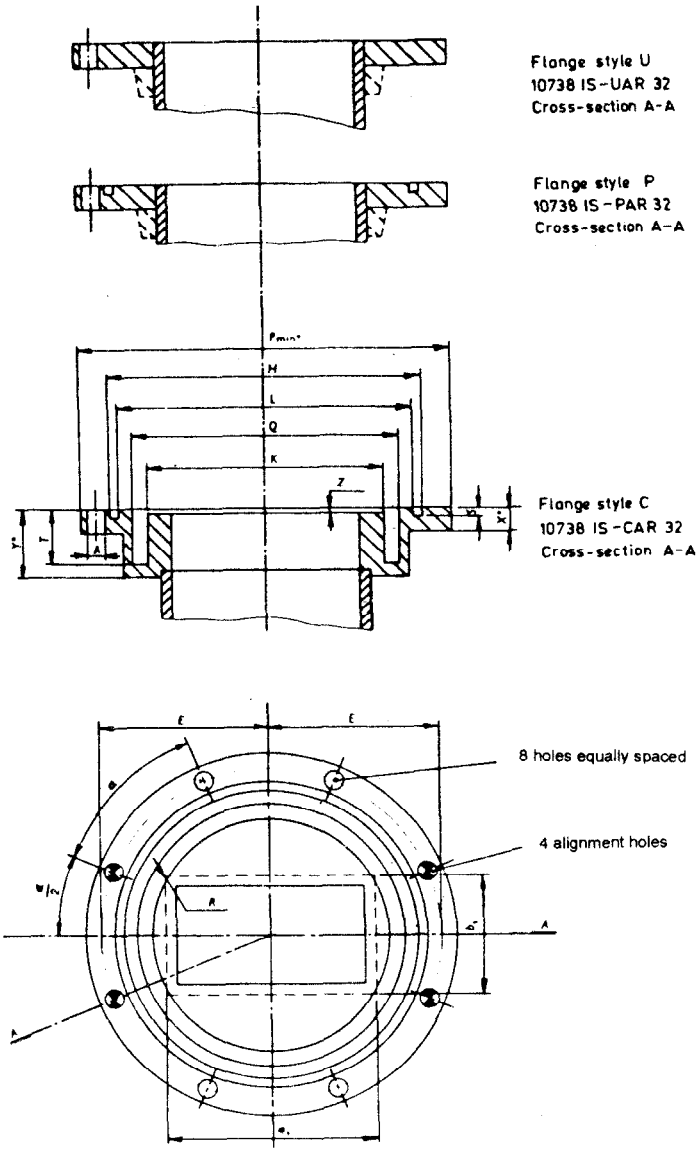
8 MARKING

8.1 Provisions of **6** of IS 10738 (Part 1) : 1983 shall apply.

9 PACKAGING

9.1 Provisions of **7** of IS 10738 (Part 1) : 1983 shall apply.

FLANGE TYPE A IS 10738 – AR 32	FIGURES 1-2



This front view shows the gasket groove, choke type only. Front view for other types can easily be derived from the given drawing.

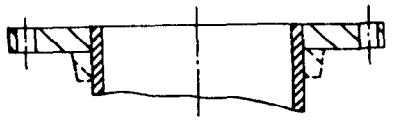
* These dimensions are not essential for the mating of two assemblies.

FIG. 1 FLANGE TYPE A – AR 32

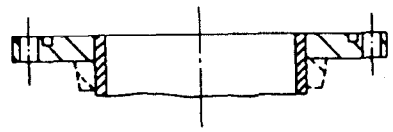
FIG. 2 GASKET

First angle projection

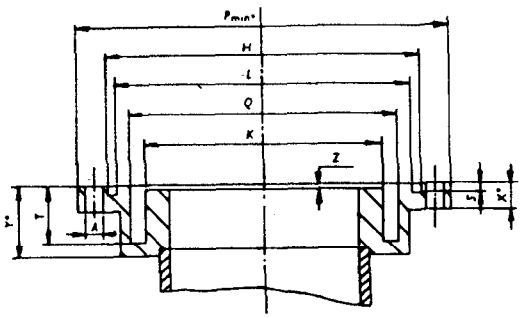
FLANGE TYPE A IS 10738 – AR 48	FIGURES 3 - 4



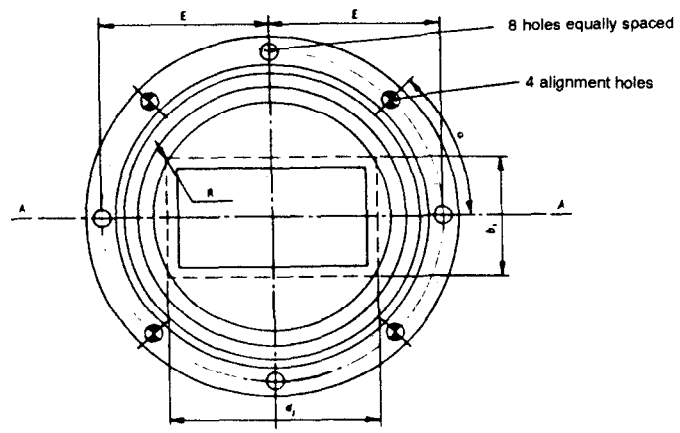
Flange style U
10738 IS-UAR 48
Cross-section A-A



Flange style P
10738 IS-PAR 48
Cross-section A-A



Flange style C
10738 IS-CAR 48
Cross-section A-A



Front View

This front view shows the gasket groove, choke type only. Front view for other types can easily be derived from the given drawing.

* These dimensions are not essential for the mating of two assemblies.

FIG. 3 FLANGE TYPE A – AR 48

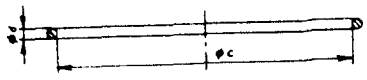
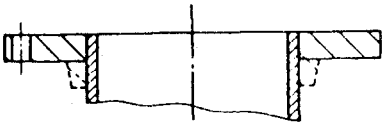


FIG. 4 GASKET

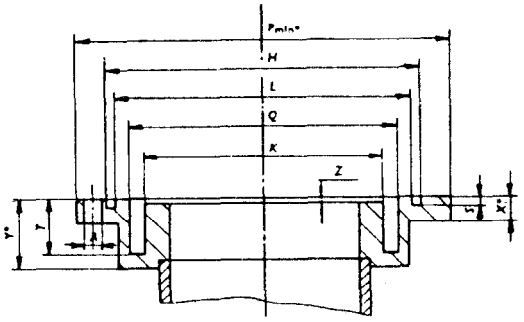
First angle projection

FLANGE TYPE A IS 10738 – AR 58-70	FIGURES 5 - 6

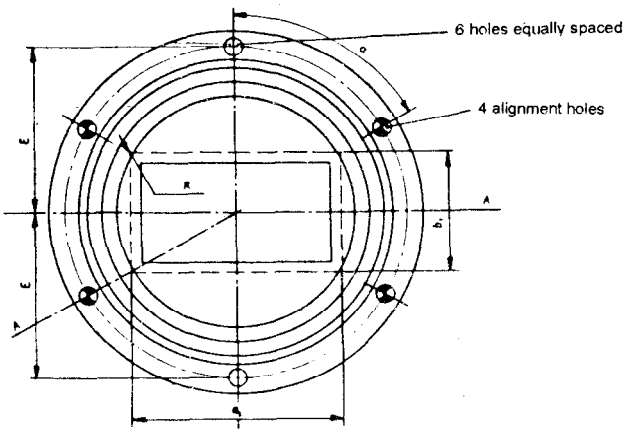


Flange style U
10738 IS-UAR 58-70
Cross-section A-A

Flange style P
10738 IS-PAR 58-70
Cross-section A-A



Flange style C
10738 IS-CAR 58-70
Cross-section A-A



Front View

This front view shows the gasket groove, choke type only. Front view for other types can easily be derived from the given drawing.

* These dimensions are not essential for the mating of two assemblies.

FIG. 5 FLANGE TYPE A – AR 58-70

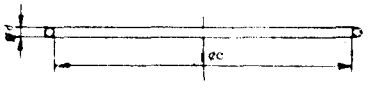


FIG. 6 GASKET

First angle projection

Table 1 Dimensions of Type A Flanges for Ordinary Rectangular Waveguides

Type designation of waveguide flange IS 10738	To be used with waveguide IS 10736	Figure	Type UAR — without choke or gasket groove: Alignment holes: Diameter A_{nom}	Alignment holes: Fit	Alignment holes: Deviation: Lower	Alignment holes: Deviation: Upper	Type UAR — without choke or gasket groove: a_1 [1]	Type UAR — without choke or gasket groove: b_1 [1]	Type UAR — without choke or gasket groove: P_{nom} [1]	Type UAR — without choke or gasket groove: K' [1]	Type UAR — without choke or gasket groove: R_{nom}	Type PAR — without choke, with gasket groove: a	Type PAR — without choke, with gasket groove: Deviations on a in inches ±	Type PAR — without choke, with gasket groove: $2E$	Type PAR — without choke, with gasket groove: Deviations on E ±	Type PAR — without choke, with gasket groove: L	Type PAR — without choke, with gasket groove: Deviation on L ±	Type PAR — without choke, with gasket groove: M	Type PAR — without choke, with gasket groove: Deviation on M ±	Type PAR — without choke, with gasket groove: S	Type PAR — without choke, with gasket groove: Deviation on S ±	Type CAR — without choke and gasket groove: K	Type CAR — without choke and gasket groove: Deviation on K ±	Type CAR — without choke and gasket groove: Q	Type CAR — without choke and gasket groove: Deviation on Q ±	Type CAR — without choke and gasket groove: T [2]	Type CAR — without choke and gasket groove: Deviation on T ±	Type CAR — without choke and gasket groove: V [2a]	Type CAR — without choke and gasket groove: Z [2]	Dimensions for gaskets where made of neoprene: c	Dimensions for gaskets where made of neoprene: Deviation on c ±	Dimensions for gaskets where made of neoprene: d	Dimensions for gaskets where made of neoprene: Deviation on d ±	Dimensions for gaskets where made of neoprene: Figure	Dimensions for alignment holes: Shank diameter	Dimensions for alignment holes: Fit	Dimensions for alignment holes: Deviation: Lower	Dimensions for alignment holes: Deviation: Upper
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
			Dimensions in millimetres																																					
PAR	R 32		8.350	B8	−0.120	−0.156	76.20	38.10	134.9	7.9	1.0	45°	0.001	120.65	0.05	100.66	0.05	112.95	0.05	4.42	0.10	84.33	0.05	98.55	0.05	21.84	0.10	25.40	0.91	100.97	0.38	5.34	0.13	2	6.350	h8	−0.022	0
	R 40		For subsequent study	B8	For subsequent study		61.42	32.53								For subsequent study												For subsequent study						For subsequent study	h8	For subsequent study	
PAR	R 48	3	5.000	B8	−0.140	−0.170	50.80	25.40	92.2	6.4	0.8	45°	0.0012	82.55	0.05	68.15	0.05	76.17	0.05	2.67	0.10	55.63	0.05	64.95	0.05	14.48	0.10	17.48	0.64	69.44	0.38	3.53	0.10	4	5.000	h8	−0.018	0
CAR	R 58	5	5.000	B8	−0.140	−0.170	43.64	23.64	83.9	6.4	0.8	60°	0.0015	76.20	0.05	59.92	0.05	68.35	0.05	2.67	0.10	47.37	0.05	55.14	0.05	11.99	0.10	For subsequent study	0.51	59.92	0.25	3.53	0.10	6	5.000	h8	−0.018	0
	R 70	5	5.000	B8	−0.140	−0.170	38.10	19.05	79.5	6.4	0.8	60°	0.0015	69.85	0.05	51.05	0.05	60.63	0.05	2.67	0.10	40.59	0.05	47.24	0.05	10.29	0.10	12.70	0.43	53.57	0.25	3.53	0.10	6	5.000	h8	−0.018	0

[1] These values are the basic values of the outside cross-section of the waveguide according to IS 4493 (Part 2) : 1981 series. They should be regarded as basic values for the aperture according to 8.3.11 of IS 10738 (Part 1) : 1983, that apply to unmounted flanges only.
For through flanges, the actual range of deviations for the mounting aperture depends on the assembling method and should therefore be agreed between both customer and manufacturer.
For socket flanges, the front-aperture shall have dimensions within the deviations specified for the inside cross-section of the appropriate size of waveguide.

[2] These dimensions are given for guidance as being suitable with regard to broadband performance. Actual values should be agreed between customer and manufacture.

[3] These dimensions are not essential for the mating of two assemblies.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Revision of Indian Standards

Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent to BIS giving the following reference:

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